Amendments to the Specification

Please replace the paragraph beginning on page 9, line 11, with the following amended paragraph:

The important characteristics for this aspect of the invention are that the window allow infra-red energy of appropriate wavelengths to pass through and that the forward-looking window be oriented at least so as to permit optical paths for the far zones that are generally forward-looking and the downward-looking window be oriented at least so as [[or]] to permit optical paths for the backward zones that are generally downward-looking, angulated with respect to the forward-looking far zones. Thus, while the forward-looking window will typically be oriented vertically with respect to the housing and the downward-looking window will typically be oriented horizontally at the underside of the housing, departure from these orientations may be desired, for example, for reasons of stylistic design.

Please replace the paragraph beginning on page 14, line 11, with the following amended paragraph:

Having described the angulated fields in general and given examples of specific embodiments for implementing the angulated fields, a more detailed description is now given of the angular disposition of the backward zones as the motion detector head is tilted downward. [[FIG. 7]] FIG. 8 shows a representation of a single backward-looking zone, the direction of which is given by the direction vector **R** pointing in the direction of the zone. The position of direction vector **R** is given with respect to a coordinate system fixed in space with the origin at the motion detector head 101. More particularly, the origin is positioned at the point from which the detection zones appear to emanate. The z axis points vertically downward. The x axis is horizontal and demarcates the border between forward and back, and the y axis is horizontal and points backwards. In this coordinate system the direction of the vector **R** representing a detection zone is given in spherical coordinates by polar angle φ from the positive z axis and azimuth θ from the positive x axis in the xy plane. Let X, Y and Z be the components of **R** along the x, y and

z axes, respectively, and let A and B be the lengths of the projections of R onto the xy and yz planes respectively.

Please replace the paragraph beginning on page 18, line 7, with the following amended paragraph:

Assume that the downward-looking zones, at least some of which look backward, form a right circular cone 105. (See [[FIG. 8.]] FIG. 9.) Assume further that the motion detector head is disposed such that the central axis of cone 105 is vertical. The motion detector head is mounted on or at a vertical wall 106 and spaced a distance d apart from the wall. The same Cartesian coordinate system is used as in FIG. 7. The wall lies in a plane parallel to the xz plane. For all points on the wall,

$$y = d. \tag{7}$$

Please replace the paragraph beginning on page 18, line 18, with the following amended paragraph:

For the sake of definiteness, it is assumed here that the edge of the wall is on the left when facing the wall and the wall extends to the right as in [[FIG. 8]] FIG. 9. If the edge were on the right with the wall extending to the left, the edge would have an x coordinate of –D. In spherical coordinates Eqs. (8) for the edge become

$$\rho \sin\varphi \cos\theta = D \text{ and } \rho \sin\varphi \sin\theta = d. \tag{9}$$

Please replace the paragraph beginning on page 21, line 3, with the following amended paragraph:

[[FIG. 9]] FIG. 10 shows the dependency of the limiting angle β_{wall} on the distance p from the edge of the wall for breaking detection zones of several polar angles α. For the curve 111 the breaking detection zone has a polar angle of 30°; i.e., the zone dips down by 60° when the head is level. For this angle the motion detector head can be mounted right at the edge of the wall (p equal to zero), and the head can be rotated down through a full 60° range without the breaking detection zone being turned skyward. This is the case, for example, with a downward conical zonal pattern as in the embodiment of

FIGS. 3A and 3B with a cone half-angle of α equal to 30° or with a downward curtain zonal pattern as in the embodiment of FIG. 5 where the curtain has a depth (i.e., a thickness) such that the break-away zone has a polar angle of 30°. A motion detector with such a zonal pattern has the advantage that it may be mounted at any distance from the wall's edge and the head may be tilted through the full practical range of 60°. Such a motion detector may even be mounted at the corner of the wall angled at 45° to the wall so as to monitor both sides of the corner without sacrificing the ability to tilt the head through the full 60°. Thus, a motion detector with downward-looking zones forming a generally circular conical zonal pattern with cone half-angle α of 30° (i.e., a full angle of 60° at the apex of the conical pattern) provides a motion-activated light fixture of widespread applicability in most if not all practical installation geometries, in which the motion detector head may be tilted through a practical range of about 60° for aiming the far forward zones without any of the downward/backward zones being turned skyward.